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ABSTRACT

Understanding how they learn best is important for beginning and returning college students. This self-awareness can assist students in developing their classroom learning, study skills, and instructional habits throughout their college careers. For this reason, a quick, inexpensive learning style inventory appropriate for college populations was constructed to aid them in understanding their learning strengths. The Self Administered Inventory of Learning Strengths (SAILS) was constructed as an alternative to traditional learning style inventories, which have some problems. The instrument, its rationale, and proper uses are described. The developed inventory assesses learning styles in the domains of visual, auditory, and kinesthetic preferences. The test has been piloted in several New Mexico community colleges and universities. Results have established that it is easily self-administered and provides useful information for college students. The inventory is attached. (Contains 10 references.) (Author/SLD)

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The Self Administered Inventory of Learning Strengths for College Students

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Running Head: SAILS

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Abstract

A student's understanding of how they person learn best is important for beginning and returning college students. This self-awareness can assist students in developing their classroom learning, study skills, and instructional habits throughout their college career. For this reason, a quick, inexpensive learning style inventory appropriate for college populations was constructed to aid them in their understanding of their learning strengths. The Self Administered Inventory for Learning Strengths (SAILS) was constructed as an alternative to traditional learning style inventories which have some existing problems. This discussion will describe SAILS, the rationale, and proper uses of the assessment.

The Self Administered Inventory for Learning Strengths for College Students

Over the past decade, knowledge about learning styles has became a fundamental tool for teachers and schools (Keefe, 1982). Each person has a preferred learning styles (Griggs, 1990). From the view of education, a learning style is understood to be a biologically and developmentally imposed set of personal characteristics which make the same teaching method effective for some, and ineffective for others (Dunn, Beaudry, & Klavis, 1989). Learning style is the method with which individuals begin to concentrate, process and retain new and different information (Dunn, 1990).

Learning style inventories attempt to measure individual learning style characteristics (Sims, 1990). Each individual has a relatively constant learning style (Dunn, Beaudry, & Klavis, 1989). Educators as well as students, are interested in identifying learning styles to facilitate learning. Every person has strengths and weaknesses associated with learning styles. It is the intent of educators and students who use learning style inventories to determine where these strengths and weaknesses lie.

Individuals may retain new and different information more easily by either hearing, seeing, reading, writing, illustrating , verbalizing, or actively experienced it. The use of a learning style inventory helps identify those areas in which individuals are strong, and in what areas they are weak. For instance, a student who scored high in auditory learning and low in visual learning should spend more time listening to instruction or getting reading assignments on audio cassette, rather than struggling through a reading assignment. Learning style inventories are best used for

determining the best way to facilitate someones ability to remember information.

Learning style inventories have been used to identify learning differences according to gender, culture, geographic location, socioeconomic status, and ethnicity, and with different academic populations including gifted, average, underachiever, at risk, dropout, and special eduction (Dunn, 1990). The goal is to identify and understand these diverse groups so no group is educationally neglected. Educators could be better able to teach and students could be able to learn knowing these differences. In previous years, before the use of learning style inventories, educators and students had difficulty identifying why these students did not always learn using traditional methods.

Diagnostic procedures, then, assess a student's potential based on achievement data, IQ scores, motivational assessment, or personality profiles (Dunn, Dunn, & Price, 1977). When assessment strictly relies on traditional techniques, the assessment reveals where the student is academically, or what the child "should" be capable of achieving, instead of why the student has not advanced further (Dunn, Dunn, & Price, 1977). When these traditional techniques fail, and a student is assessed as being capable of achieving certain things, which the student does not succeed, the student is often viewed as having emotional or psychological problems. Perhaps, these students have problems, but often these problems are the result of having to learn in an environment which is incompatible with their learning style. This is why assessing learning style is a valuable tool for both educators and students.

There are several of learning style inventories on the market today. Although there are many learning style inventories, only a few are reliable

and valid (Curry, 1987). The dominate assessment devices used to identify learning styles include the Dunn and Dunn Learning Style Inventory, the NASSP's (National Association of Secondary School Principals) Learning Style Profile, and Renzulli and Smith's Learning Style Inventory (Debello, 1990). These assessments are adequate for their designed purposes but are not ideal for post secondary students seeking quick and inexpensive feedback.

Although there are a plethora of learning style inventories available including the above mentioned Dunn and Dunn Learning Style Inventory, NASSP's Learning Style Inventory, and Renzulli, and Smith's Learning Style Inventory, their suitability for post secondary is questioned. For several reasons, these inventories are not adequately meeting the needs of college students. Most learning style inventories are time consuming, expensive, developed for students below college level, and include a multitude of complicated subscales.

There are numerous time constraint problems associated with present learning style inventories. First, these learning style inventories are lengthy. Based on the three most regarded learning style inventories mentioned earlier, the average length of these learning style inventories is approximately 100 items. A 100 item test would take approximately 30-45 minutes. Secondly, these learning style inventories must be sent to the test manufacturer to be scored. Sending, scoring, and returning the inventories can two to three weeks.

This scoring process is not only time consuming but also is expensive. Most institutions have to pay proctors to select, administer, collect, and mail these inventories to the test manufactures. Also, the test manufactures charge a fee for scoring and shipping. All of the three

studied require answers to be recorded on optical scanning
ets which must be computer scored by the test manufacturer. Finally,
opies of the results are included in the purchase of several inventories.
The most common forms of computer generated results are represented through graphs, charts, maps, tables which may not only be redundant but require additional money to generate.

Learning style inventories are often limited to certain age groups. The age criteria for the three learning style inventories range from 3rd to 12th grades. With such limitations, it is inappropriate to measure a college student, with an instrument designed for 3rd to 12th graders. Even the educational situations that these groups face in school are quite different. In most cases, elementary and high school students school work is accomplished before ever leaving the school grounds. On the other hand, college students complete most of their work at home or in the dorms on their own time.

The scales of traditional learning style inventories are most inclusive but the need for the vast array of subscales is not always necessary. Learning is the process or act of acquiring knowledge or skill. All information, (other than instinct) must be assimilated through the senses and sent to the brain for learning to occur. Accordingly, awareness about factors such as emotionality, social inclusion, and psychological partialities are notable, but these are secondary issues. Inconsistent emotionality, social inclusion, and psychological partialities are also factors which students have little power to change.

For these reasons, there was a need for an alternative learning style inventory. This new inventory was designed for college populations to be inexpensive; less time consuming to complete, administer, and receive

results more appropriate for college populations. The SAILS inventory contains only 25 questions and be completed in 5-10 minutes. Also, the form for the SAILS inventory is self administered which does not required a proctor. Furthermore, the SAILS inventory is self scored so the results can be seen immediately.

The SAILS inventory is cost effective, since there is no need for administration, the mailing of completed forms, scoring, or shipping that precipitated additional spending. The SAILS inventory is self administered, self scored, and easily interpreted by ordinary individuals. This makes for a relatively uncomplicated assessment device that is quick, easy, and beneficial.

The SAILS inventory was designed to meet the needs of the college population. Previous inventories have neglected this population. This inventory on the other hand, addresses issues that are unique to college students as well as issues that all students experience.

The SAILS inventory utilizes sensory partialities as the means of attaining enlightenment about one's learning style. Awareness about sensory preferences enables college students to identify strengths and weaknesses in their particular learning style. This information in turn assists students in making decisions to remedy less effective study habits and to utilize more suitable ones.

SAILS

The SAILS assessment was developed to assess the learning styles of college students relative to three domains including (1) visual; (2) auditory; and (3) hands on (kinesthetic) preferences. This instrument contained 25 items constructed to assess students preferences in one or

more of the three domains including (1) visual; (2) auditory; and (3) hand on (kinesthetic) preferences. This instrument contained 25 items constructed too assess students preferences in one or more of the three domains. The items were forced choice. Each choice had a specific area which was divided into three columns. Two areas were synthesized into one statement. Each statement contained two areas divided up into two columns with one column blank. Students had to choose between two of the areas to indicate their strongest preference. Preference strengths were determined by totaling the three columns. The column with the highest number is the area of strongest preference. The column with the second highest total indicates the next strongest preference. The column with the lowest number indicates the least preferred domain.

Results

This test was piloted in several New Mexico community college and universities. Results have demonstrated that it is readily self demonstrated that it is easily self administered and provides useful information for college students. Both students and faculty have given positive responses to the SAILS test.

During the piloting time the authors refined the SAILS instrument according to suggestions from all participants. The draft enclosed is the finalized version from the feedback received.

Following administration of the SAILS, the students received a copy of Learning Techniques handout for the learning strength(s) determined by the assessment. These learning techniques have been derived from a thorough review of the research and are a comprehensive list of study skill and learning style suggestions. The students appreciated being given

practical ideas for approaching academic work that are suited to their individual strengths.

Discussion

SAILS accomplishes it's purpose of providing quick, inexpensive feedback to students about their learning to students about their learning strengths. One positive result from the pilot studies was the feeling of empowerment reported by the college students. Many particapants were non-traditional or returning students who felt insecure about how to prepare for college. The learning techniques gave the students a starting point for taking control of their learning and increasing their chances for success.

Students were also unaware that people have individual learning styles. A common response from students was that they now understood why they were or were not "good" at certain tasks. Also students who were low achieving in the past were encouraged by understanding there was nothing wrong with having a different learning style from other students, and that no one style was determined to be related to intelligence.

By using the SAILS assessment, we hope to encourage students to capitalize on their strengths, to employ learning and study skills, and hopefully be motivated by using successful strategies. College can difficult enough for any beginning or returning student. The SAILS test may assist in making academic and vocational studies a more positive experience for college students.

References

Curry, L. (1987). Integrating concepts of cognitive learning style: A review with attention to psychometric standards. Ottawa, Ontario, Canada: Canadian College of Health Science Executives.

De Bello, T. (1990). Comparison of eleven major learning style models: Variables, appropriate populations, validity of instrumentation, and the research behind them. Reading, Writing, and Learning Disabilities, 6, 203-222.

Dunn, R. (1990). Understanding the Dunn and Dunn Learning Style model and the need for individual diagnosis and prescription. Reading, Writing, and Learning Disabilities, 6, 223-247.

Dunn, R., Beaudry, J., & Klavas, A. (1989). Survey of research on learning style. Education Leadership, 46(6), 50-58.

Dunn, R., Dunn, K., & Price, G. (1977). Diagnosing learning styles: A prescription for avoiding malpractice suits against school systems. Phi Delta Kappan, 58(5), 418-420.

Dunn, R., Dunn, K., & Price, G. (1991). Productive environmental preference survey: An inventory for the identification of individual adult preferences in a working learning environment. Lawrence, KS: Price Systems, Inc.

Griggs, S. (1990). Counseling students toward effective study skills using their learning style strengths. Reading, Writing, and Learning Disabilities, 6, 281-296.

Keefe, J. (1982). Assessing students learning styles. In Keefe, J. (Ed.) Students learning style and the brain behaviors (pp. 1-18). Reston, VA: National Association of Secondary School Principals.

Renzulli, J. & Smith, L. (1978). Learning styles inventory: A measurement of student preferences for instructional techniques. Mansfield Center, CT: Creative Learning Press, Inc.

Sims, R. (1986). The reliability and classification stability of the learning style inventory. Educational and Psychological Measurement, 46, 753-760.

TEACHING TECHNIQUES FOR TEACHERS

WITH VISUAL LEARNING STUDENTS

1. Present material visually.
2. Teach so students can see your mouth.
3. Use gestures as visual cues.
4. Write instructions on the board.
5. Encourage students to make notes and listen to you as you give directions.
6. Replace memory assignments with organizational assignments that require students to store data in the notes and outlines instead of their memories...include in the learning goals the organizational and retrieval of the material since they are developing a support system for their own memories.
7. Accompany lectures with visual aids. For example:

Drawings	Flash cards	Films	Transparencies	Filmstrips	Maps
Pictures	Diagrams	Books	Graphs	Charts	Posters
Puzzles	Matching games				

8. Encourages visualization of material.
9. Allow "Doodling"... it might be their way of engaging in visually during a auditor presentation.
10. Use color coding.
11. Always model or show the skill to be learned.
12. Use self checking material.
13. Write out terms before telling the definitions.
14. Allow the student to read silently more often than orally.
15. Place the student near the blackboard.
16. Limit students visual distractions.
17. Remain stationary when talking to the student because movement disturbs his/her focus.
17. Show students actual objects rather than pictures.

TEACHING TECHNIQUES FOR TEACHERS WITH AUDITORY LEARNING STUDENTS

1. All significant data should go through the ear.
2. Present information through the use of: Radio Guest lectures Tapes
   Television Lecture Question and Answers Oral reports
   Book reviews Rhymes and Songs Group discussion
3. Avoid long paper and pencil assignments.
4. Avoid long silent reading assignments.
5. Read test questions aloud.
6. Written instructions should be repeated orally.
7. Always tell the student every step of the skill to be learned.
8. Allow students to move their lips or subvocalize when reading.
9. Limit what is one students desk.
10. Encourage the use of a "window or book marker to block other words when reading.
11. Give oral directions.
12. Teach the student to talk through tasks.
13. Provide auditory and rhyme cues.
14. Make sure you have the students attention before giving directions.
15. Allow or provide means for information to be learned through audio cassette.
16. Positively reinforce the student when the student is attending and when the student is working quietly.
17. Use oral tests occasionally and require oral responses.

TEACHING TECHNIQUES FOR TEACHERS WITH HANDS-ON LEARNING STUDENTS

1. Resources should be manipulative and 3-dimensional--touchable and moveable.
2. Help students to organize their desk and keep them free from distraction.
3. Provide experiences for students to do or feel as much as possible.
4. Have students model or demonstrate tasks for other students.
5. Use role playing.
6. Complete instructions and ask the student id he needs clarification.
7. Help the student make personal organization a goal: Assist in planning step-by-step.
8. Allow the student to prepare his own schedule of work include the time in which to complete the work.
9. Give instructions first then pass out material.
10. Touch the student or hold the students hand while talking.
11. Communicate approval, disapproval, and restraints through touch.
12. Keep work period short and gradually lengthen.
13. Set these students close to you.
14. Make work assignments specific.
15. Keep students away high traffic areas where they might be distracted.
16. When possible, allow the student to move around the room as part of the learning experience.
17. Teach students to create or keep daily records, diaries, or journals.
18. Avoid passive learning, plan field trips and site visits.
19. Have the student chart his progress.
20. Combine creative dramatics with reading.

LEARNING TECHNIQUES FOR STUDENTS WHO ARE VISUAL LEARNERS

1. As a study aid, use outlining, mapping and clustering.
2. Draw or illustrate new ideas or concepts.
3. Use colored highlighters with text book and notes.
4. During a lecture take notes.
5. Write all directions down.
6. Visualize new words problems, and images in your mine: visual images help increase sequential memory.
7. Use color coding.
8. Study in a secluded area away stimulus, such as bulletin boards, posters, and heavy traffic areas.
9. Read the material on the lecture before hearing the lecture.
10. Enrich reading material with T.V. documentaries and video productions.
11. Ask instructor to demonstrate or model skills to be learned.
12. Use self-checking materials.
13. If you can't actually observe or see the skill that is to be learned, visualize the experience in your mind.
14. Ask to be given "one step at a time" directions.
15. Ask to be given written directions.

LEARNING TECHNIQUES FOR STUDENTS WHO ARE AUDITORY LEARNERS

1. Tape presentations and lectures for playback.
2. Repeat instructions aloud verbally.
3. Use programmed learning kits with tapes.
4. Memorize through the use of music, jingles, and catchy stories.
5. Utilize lecture and group discussion study groups.
6. Follow up with appropriate use of television documentaries, movies, videos.
7. Create opportunities for oral reports and presentations.
8. Attend or participate in panel discussions.
9. To memorize information, record it on a cassette tape for play back.
10. Use the neurological impress method: Have someone read while you follow along.
11. Use book cassettes if available.
12. Ask to be told every step of a skill to be learned.
13. When hear information summarize it in your own words.
14. Memorize rules and instructions by having the instructor say them first.
15. Look for quiet places to work and study.
16. Ask instructor to repeat "exact" words.
17. Ask to be spoken to directly.
18. Beware of courses with lots of reading.
19. When writing, plan the sentence you want by saying it aloud or silently.
20. When writing, write slowly as you say it.
21. When writing, dictate your sentence using a tape recorder and then play it back as you write it.

LEARNING TECHNIQUES WHO ARE HANDS-ON LEARNERS

1. Associate word formations and meanings by involving the sense of touch in reading by tracing over the words.
2. Use task cards.
3. Use concrete objects as learning aids.
4. Become involved in active participation:

Typing	Constructing models	Taking Notes
Creating bulletin boards	Role playing	Drama

5. Use computer assisted instruction.
6. Allow yourself to move during learning.
7. Use manipulative and three dimensional materials.
8. Participate in activities that plan, demonstrate, report, and evaluate with models and other real objects.
9. Keep written records.
10. Participate in real life experiences, such as interviews, field trips, building, and designing.
11. Use felt tip pens for more texture.
12. Ask to model or demonstrate for other students.
13. Ask to do projects.
14. Set near a clock so you won't always be wondering what time it is.
15. Keep desk area clear.
16. Cover the page you are not reading.
17. Divide your work into short study sections.
18. Sit as close to the teacher as possible.
19. When studying try to use all the sense (hearing, seeing, touching, and doing).
20. Get enough sleep.
21. Watch your diet, sugars and additives can cause hyperactivity in some people.

SAILS

Self Administered Inventory of Learning Strengths

Shaun A. Lester & Janna Siegel, Ph.D.

Directions: Please read each statement and the two responses. Then circle the letter in the right hand column that best describes your learning preferences.			
1. When someone gives you road side directions..... A. You would rather write the directions out C. You would rather draw a map	A.		C.
2. Which distracts you more when you are studying..... A. Loud noises C. Flashing lights	A.		C.
3. Which do you notice first about people you are meeting for the first time..... A. The sound of their voice C. Their facial features	A.		C.
4. When you are interested in a new book would you rather..... A. Listen to the book recorded on audio cassette C. Read the book silently	A.		C.
5. When learning a new skill would you rather ..... A. Listen to a professor describe the steps C. Watch a class demonstration illustrating the steps	A.		C.
6. Which do you prefer..... B. Participating in an athletic activity C. Watching professionals play the sport		B.	C.
7. If you lost your keys would you more likely..... B. Retrace your steps C. Visualize where you left them		B.	C.
8. Would you learn a lab experiment better if you..... B. Figured the directions out yourself C. Watch the teacher demonstrate the experiment		B.	C.
9. Would you learn social studies better if you..... B. Role played as historical characters C. Were shown slides and films of historical events		B.	C.
10 Which way is easier for you to learn how to cook..... B. Trying it out or experimenting C. Following directions and illustrations		B.	C.

11. Which would you rather do..... A. Listen to a speaker B. Give a presentation	A.	B.		
12. Which would be easier for you to learn..... A. Words to a new song B. Steps to a new dance	A.	B.		
13. Which is the easier way for you to learn a new language..... A. By hearing new words explained by a teacher B. By encountering new words in real life situations	A.	B.		
14. Which situation would enable you to study better..... A. A room in absolute silence B. A place where you have room to move around	A.	B.		
15. Would you learn more in a class that..... A. Has you listening to interesting speakers B. Has you participating in class activities	A.	B.		
Totals				
	AUDITORY LEARNERS	HANDS ON LEARNERS	VISUAL LEARNERS	